costs and benefits of implementing number portability.[87] USTA adds, however, that the Commission may consider economic efficiencies in determining what rules to implement.[88]

35. Several commenters, while agreeing that the Commission should take a leadership role, urge us to leave certain implementation issues to the states.[89] USTA advocates allowing the states to determine their own deployment schedules.[90] The California PUC asserts that the Commission's jurisdiction over number portability is not exclusive, and that states must be allowed to implement number portability methods that are most compatible with local exchange competition in each state.[91]

3. Discussion

36. We believe that Congress has determined that this Commission should develop a national number portability policy and has specifically directed us to prescribe the requirements that all local exchange carriers, both incumbents and others, must meet to satisfy their statutory obligations.[92] Section 251(b)(2) requires LECs "to provide, to the extent technically feasible, number portability in accordance with the requirements prescribed by the Commission."[93] Moreover, section 251(e)(1)'s assignment to the Commission of exclusive jurisdiction over that portion of the NANP that pertains to the United States gives us authority over the implementation of number portability to the extent that such implementation will affect the NANP.[94] Consistent with the role assigned to the Commission by the 1996 Act, the record developed in this proceeding overwhelmingly indicates that the Commission should take a leadership role with respect

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[87] Omnipoint Further Comments at 7; Time Warner Holdings Further Comments at 1, 3.

[88] USTA Further Reply Comments at 2-3.

[89] California PUC Further Reply Comments at 2; Florida PSC Comments at 2; Michigan PSC Staff Reply Comments at 2; NARUC Reply Comments at 1-2; Ohio PUC Comments at 2; USTA Further Reply Comments at 1, 6-7.

[90] USTA Further Reply Comments at 6-7 (asserting that this is consistent with section 251(f)(2), which allows LECs with less than 2% of the nation's access lines to petition the states for suspension or modification of sections 251(b) or 251(c)).

[91] California PUC Further Reply Comments at 2.

[92] See 47 U.S.C § 251(b)(2), (d).

[93] 47 U.S.C § 251(b)(2).

[94] See 47 U.S.C. § 251(e)(1).

to number portability.[95] We, therefore, affirm our conclusion that we should take a leadership role in developing a national number portability policy. We further note that, in light of Congress's mandate to us to prescribe requirements for number portability, it is not necessary to engage in a cost/benefit analysis as to whether to adopt rules that require LECs to provide number portability in the first instance. We may consider economic and other factors, however, when determining the specific requirements in such rules.

37. The 1996 Act directs this Commission to adopt regulations to implement number portability,[96] and we believe it is important that we adopt uniform national rules regarding number portability implementation and deployment to ensure efficient and consistent use of number portability methods and numbering resources on a nationwide basis. Implementation of number portability, and its effect on numbering resources, will have an impact on interstate, as well as local, telecommunications services. Ensuring the interoperability of networks is essential for deployment of a national number portability regime, and for the prevention of adverse impacts on the provision of interstate telecommunications services or on the use of the numbering resource. We believe that allowing number portability to develop on a state-by-state basis could potentially thwart the intentions of Congress in mandating a national number portability policy, and could retard the development of competition in the provision of telecommunications services.

C. Performance Criteria for Long-Term Number Portability

1. Background

38. In the Notice, we sought comment on what long-term number portability methods would be in the public interest. Specifically, we sought comment on various number portability proposals offered by different industry participants, including proposals by AT&T, MCI Metro, Stratus Computer and US Intelco, and GTE.[97] We also sought comment on the extent to which these proposals would support certain services that we deemed important. We tentatively concluded that any method should support operator services and emergency services because they are critical to public safety and are important features of the public switched network.[98] We also tentatively concluded that any number portability proposal should efficiently use telephone numbers.[99] In

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[95] See, e.g., General Communication Comments at 1; Pacific Bell Comments at 9; Texas PUC Comments at 2; US Airwaves Comments at 1.

[96] 47 U.S.C. § 251(d)(1).

[97] Notice, 10 FCC Rcd at 12363-65.

[98] Id. at 12365.

[99] Id.

addition, we discussed and sought comment on which of three call processing scenarios (i.e., which carrier performs the database query in a database method), or any alternative, would best serve the public interest.[100] We sought comment on whether telephone numbers should be portable within local calling areas, throughout a particular area code, state-wide, regionally, nationwide, or on some other basis, and how the geographic scope of portability would impact different types of carriers and their billing systems. We also asked whether number portability could be provided nationwide without significant network modifications.[101]

2. Positions of the Parties

39. Performance criteria versus selection of architecture. Commenting parties differ on whether the Commission should establish performance criteria or guidelines that any number portability method must meet, or require the implementation of one national portability method. Many parties, including several state regulatory agencies, cable interests, and LECs, favor establishment of broad guidelines and interoperability criteria for implementing a long-term portability method.[102] NYNEX maintains that this approach would encourage cooperative industry resolutions for a true number portability method and would properly account for legitimate state interests in the deployment of number portability. NYNEX further claims that guidelines would allow the Commission to ensure the implementation of compatible methods, with seamless call flows and service operation, without expending scarce resources by focusing on the detailed implementation of every method in each region of the country.[103] The California Department of Consumer Affairs contends that the 1996 Act's pro-competitive policies mandate that the portability method adopted be flexible and allow for future innovation.[104] GTE urges the Commission to determine the type of routing information to be employed, but leave selection of the triggering mechanism to the individual carriers.[105] SBC Communications asserts that section 251(d)(1) only requires the Commission to outline principles for a

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[100] Id. at 12365-66. For descriptions of these scenarios, see infra ¶ 42.

[101] Notice, 10 FCC Rcd at 12367.

[102] See, e.g., Cablevision Lightpath Reply Comments at 6; Missouri PSC Comments at 3; Pacific Bell Comments at 9. See also Ericsson Comments at 3 (asserting that there may be other long-term methods the Commission and industry have not yet identified).

[103] NYNEX Comments at 15, 17. See also Pacific Bell Comments at 13-14; USTA Comments at 7.

[104] CA Consumer Affairs Further Reply Comments at 2, 4.

[105] GTE Further Reply Comments at 6; see also Pacific Bell Further Reply Comments at 6.

long-term method within six months of enactment of the 1996 Act, not to adopt a specific method.[106]

40. Conversely, some parties contend that requiring a single, national method would avoid the implementation of numerous inconsistent and inefficient approaches, and the need for carriers to adapt to different requirements in different states.[107] Jones Intercable argues that allowing number portability to develop state-by-state would give the incumbent LECs the opportunity to delay development of local exchange competition.[108] BellSouth and Nortel argue that a single long-term method is necessary to minimize the costs of implementation, operation, and maintenance; to protect billing systems against problems created by use of differing SS7 parameters; and to foster network integrity.[109] PCIA claims that a state-regulated market would inhibit development of a nationwide wireless network.[110] Arch/AirTouch Paging adds that deployment of different portability methods would adversely impact interstate telecommunications.[111] Bell Atlantic and PCIA argue that a national method is more likely to conserve scarce numbering resources.[112] Bell Atlantic further claims, however, that each individual carrier should be allowed the flexibility to utilize whatever architecture or technology within its own network best enables that carrier to implement whatever national method is selected.[113] Moreover, some parties urge the Commission to select a particular method to be implemented nationwide,[114] while others advocate allowing the industry to select the specific method.[115]

41. Commenting parties suggest numerous performance criteria with which any long-term number portability method must comply. These include: (1) the ability to

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[106] SBC Communications Further Reply Comments at 5; see also USTA Further Reply Comments at 5.

[107] See, e.g., ACTA Comments at 6-7; PCIA Comments at 8; Telecommunications Resellers Comments at 1, 14-15.

[108] Jones Intercable Comments at 2-3; Jones Intercable Reply Comments at 5; PCIA Comments at 8.

[109] BellSouth Comments at 34; Nortel Reply Comments at 2-3.

[110] PCIA Comments at 8 n.23.

[111] Arch/AirTouch Paging Comments at 8-9.

[112] Bell Atlantic Comments at 10; PCIA Comments at 8.

[113] Bell Atlantic Comments at 10-11; Bell Atlantic Further Comments at 2; see also Ameritech Further Comments at 9.

[114] See, e.g., AT&T Further Reply Comments at 7; MCI Ex Parte Letter at 1, from Donald F. Evans, to Richard Metzger, FCC, CC Docket No. 95-116, filed June 19, 1996 (MCI June 19, 1996 Ex Parte Letter).

[115] See, e.g., Bell Atlantic Reply Comments at 1-5; BellSouth Comments at 35-36.

support emergency services, i.e., 911 and enhanced 911 (E911) services;[116] (2) the ability to support existing network services and capabilities, (e.g., operator and directory services, vertical and advanced services, custom local area signaling services (also known as "CLASS"), toll free and pay-per-call services, and intercept capabilities);[117] (3) efficient use of numbering resources;[118] (4) no initial change of telephone numbers;[119] (5) no reliance on network facilities of, or services provided by, other service providers (e.g., incumbent LECs) in order to route calls;[120] (6) no degradation in service quality or network reliability (e.g., no significant increase in call set-up time);[121] (7) reliance on existing network infrastructure and functionalities to the extent possible;[122] (8) equal application to both incumbents and new entrants (i.e., carriers who receive ported numbers must also provide portability);[123] (9) no proprietary interests or licensing fees;[124]

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[116] See, e.g., Arch/AirTouch Paging Reply Comments at 8, 16, Attachment at 12-13 (911 and E911 services are particularly critical for wireless networks); California PUC Comments at 9; NENA Reply Comments at 1-2 (service provider portability will not necessarily affect E911 services, but location portability will); NENA Further Comments at 2-3 (asserting that statutory definition of "number portability" requires supporting emergency services).

[117] See, e.g., Bell Atlantic Comments at 12; Competitive Carriers Comments at 7, 23; GO Communications Comments at 6.

[118] See, e.g., California PUC Comments at 9; General Communication Comments at 4; US West Comments at 15-19.

[119] See, e.g., CCTA Reply Comments at 7-8; GO Communications Comments at 6; New York DPS Comments at 8.

[120] See, e.g., AT&T Comments at 15-16; CCTA Reply Comments at 8 (noting that RTP displaces the routing and addressing preferences of new entrants by requiring the use of routing and addressing schemes developed and implemented by incumbent LECs); Sprint Comments at 3, 15-16.

[121] See, e.g., AT&T Comments at 15-16; Bell Atlantic Comments at 12; Teleport Comments at 11. Cincinnati Bell urges that a method that minimizes database queries would best protect system reliability, impairment of which is prohibited by the 1996 Act. Cincinnati Bell Further Reply Comments at 2. Pacific Bell maintains that reasonable differences in delay or variation in treatment between ported and non-ported numbers are permitted by the 1996 Act. Pacific Bell Further Reply Comments at 5 (citing statutory definition of telecommunications service).

[122] See, e.g., BellSouth Comments at 24, 34; ITN Comments at 3-4; MCI Comments at 7-8. Cf. ACTA Comments at 11.

[123] See, e.g., BellSouth Reply Comments at 17-18; Illinois Commerce Commission Comments at 2; Omnipoint Reply Comments at 6-8. But see Time Warner Holdings Further Comments at 2 n.3 (asserting that Commission is authorized to forbear from imposing duty to provide portability on non-incumbent LECs).

[124] See, e.g., Ameritech February 21, 1996 Ex Parte Filing at 8; MCI Comments at 7-8; MFS Comments at 10-11.

(10) the ability to migrate to location and service portability;[125] and (11) no adverse impact in areas where portability has not been deployed.[126]

42. Call processing scenarios. In the Notice, we discussed three call processing scenarios. They were: (1) the terminating "access" provider (TAP) scenario, under which the database query is performed by the terminating access provider (usually the incumbent LEC, who recovers interstate access charges from interexchange carriers (IXCs) for terminating traffic under our existing access charge regime); (2) the originating service provider (OSP) scenario, under which the originating service provider performs the database query; and (3) the "N minus 1" (N-1) scenario, under which the carrier immediately prior to the terminating service provider performs the database query or dip.[127] In addition, ITN suggests a "first-switch-that-can" approach, under which the first switch that handles the call and has the capability to do the database dip performs the query.[128]

43. Pacific Bell and Bell Atlantic recommend that carriers should be permitted to choose a call processing scenario to enable them to implement the QOR triggering mechanism in addition to LRN.[129] These parties assert that QOR would eliminate unnecessary database queries, thereby decreasing the number of databases necessary to provide number portability and the transmission capacity between switches and databases.[130] In contrast, AT&T argues against allowing carriers to choose a call processing scenario, such as QOR, because doing so would delay deployment of a long-term number portability method and would result in significant network interoperability issues.[131] MCI opposes implementation of QOR because it forces competitive LECs to

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[125] See, e.g., GTE Comments at 23; ITN Reply Comments at 2; MCI Comments at 7-8. Cf. USTA Comments at 9-10 (asserting that equipment costs for service portability would redirect capital away from deployment of services and create upward pressure on service prices).

[126] See, e.g., ITN Comments at 3-4.

[127] Notice, 10 FCC Rcd at 12365-66.

[128] ITN Comments at 1; ITN Reply Comments at 1, 4.

[129] See Bell Atlantic Ex Parte Letter at 3, from Patricia E. Koch, to William Caton, FCC, CC Docket No. 95-116, filed May 13, 1996 (Bell Atlantic May 13, 1996 Ex Parte Letter); Pacific Bell Further Comments at 3-4.

[130] Bell Atlantic May 13, 1996 Ex Parte Letter at 3; Pacific Bell Further Comments at 7-8.

[131] AT&T Ex Parte Letter at 3-5, from Betsy J. Brady, to Jason Karp, FCC, CC Docket No. 95-116, filed Apr. 24, 1996 (AT&T April 24, 1996 Ex Parte Letter).

rely on the incumbent LEC's network and results in inefficient routing.[132] AT&T and MCI also argue against use of the RTP or QOR triggering mechanisms because they treat transferred and non-transferred numbers differently,[133] and significantly increase post-dial delay and the potential for call blocking.[134]

44. Most of the parties that favor the Commission's selection of a particular call processing scenario prefer the N-1 scenario because they believe it allows database queries to be made at the most efficient points in the process of routing telephone calls.[135] In contrast, ITN states that use of the N-1 scenario may hinder the evolution from localized to national number portability environments.[136] BellSouth contends that the Commission need not select a particular scenario because all four triggering mechanisms (OSP, TAP, N-1, and Look-Ahead) could exist simultaneously through engineering and business arrangements.[137] Citizens Utilities and NCTA oppose the TAP scenario because it requires routing most calls to the incumbent LEC networks, thus denying terminating access charges to competitive providers.[138]

45. Rating and billing. Several LECs, MCI, and MFS contend that any long-term method should preserve existing rating and billing systems to minimize costs and impact.[139] Conversely, AT&T and Florida PSC argue that any long-term method should permit flexible rating and billing schemes.[140] Pacific Bell, US West, and BellSouth also argue that the Commission must in this proceeding address billing problems, including issues relating to proper mileage, rating, calling cards, and billing format.[141]

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[132] MCI Ex Parte Letter at 2-4, from Donald F. Evans, to Richard Metzger, FCC, CC Docket No. 95-116, filed Apr. 23, 1996 (MCI April 23, 1996 Ex Parte Letter).

[133] AT&T Ex Parte Presentation at 11, CC Docket No. 95-116, filed May 22, 1996 (AT&T May 22, 1996 Ex Parte Filing); MCI April 23, 1996 Ex Parte Letter at 3.

[134] AT&T Further Reply Comments at 6; MCI Further Reply Comments at 3-5.

[135] See, e.g., MCI Comments at 18; New York DPS Comments at 9; Time Warner Holdings Comment at 17.

[136] ITN Reply Comments at 1, 4.

[137] BellSouth Comments at 26-27.

[138] NCTA Comments at 10; Citizens Utilities Comments at 12. Cf. Florida PSC Comments at 8 (arguing that the TAP scenario limits the number of carriers that have access to the database and reduces implementation costs by limiting the method to areas where competition is developing).

[139] See, e.g., MCI Comments at 7-8; MFS Comments at 10-11; USTA Comments at 7.

[140] AT&T Comments at 15-16; Florida PSC Comments at 7

[141] BellSouth Comments at 24-25; Pacific Bell Comments at 18; US West Comments at 24.

3. Discussion

46. Performance criteria versus selection of architecture. We conclude that establishing performance criteria that a LEC's number portability architecture must meet would better serve the public interest than choosing a particular technology or specific architecture. First, we believe that to date there appears to be sufficient momentum to deploy compatible methods, if not an identical method, nationwide. Every state that has selected a particular architecture for implementation within its state boundaries has selected the same method, LRN, and numerous states are reportedly following suit.[142] With the exception of some of the incumbent LECs, most parties that advocate selection of a particular method at this time are also supporting the LRN method.[143] Under these circumstances, mandating the implementation of a particular number portability architecture, or mandating that the same architecture be deployed nationwide, appears unnecessary. Second, such a mandate might actually delay the implementation of number portability. We are reluctant, based on the record in this proceeding, to select one of the proposed long-term methods. According to a number of parties, none of the currently supported methods, including LRN, has been tested or described in sufficient detail to permit the Commission to select the particular architecture without further consultation with the industry.[144] If, however, we were to direct an industry body to recommend a specific number portability architecture, it would likely delay the implementation of number portability that already is underway in several states, and would create significant uncertainty for those switch vendors currently modifying switch software to accommodate LRN. Third, dictating implementation of a particular method could foreclose the ability of carriers to improve on those methods already being deployed or to implement hybrid (but compatible) methods.

47. We believe that our establishment of criteria for long-term number portability methods, however, will ensure an appropriate level of national uniformity, while maintaining flexibility to accommodate innovation and improvement. The deployment of a uniform number portability architecture nationwide will be important to the efficient functioning of the public switched telephone network and will reduce the costs of implementing number portability nationwide by allowing switch vendors to spread the costs of development over more customers. Moreover, a uniform deployment will allow switch manufacturers to work toward a single standard, thus avoiding the situation where different manufacturers partition the market among different methods.

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[142] See supra ¶¶ 21-22.

[143] See, e.g., Ameritech, AT&T, Central Telephone Co. of Illinois, MCI, MFS, Teleport, Time Warner Holdings, and Sprint Joint Ex Parte Letter at 1, to Regina Keeney, FCC, CC Docket No. 95-116, filed May 8, 1996 (Ameritech et al. May 8, 1996 Joint Ex Parte Letter).

[144] See GTE Ex Parte Presentation at 2, CC Docket No. 95-116, filed Feb. 7, 1996 (GTE February 7, 1996 Ex Parte Filing); GTE Ex Parte Presentation at 3-4, CC Docket No. 95-116, filed Mar. 27, 1996 (GTE March 27, 1996 Ex Parte Filing); Pacific Bell Comments at 15-17; NYNEX Reply Comments at 5.

48. Performance Criteria. We thus adopt the following minimum criteria. Any long-term number portability method, including call processing scenarios or triggering, must:

(1) support existing network services, features, and capabilities;

(2) efficiently use numbering resources;

(3) not require end users to change their telecommunications numbers;

(4) not require telecommunications carriers to rely on databases, other network facilities, or services provided by other telecommunications carriers in order to route calls to the proper termination point;

(5) not result in unreasonable degradation in service quality or network reliability when implemented;

(6) not result in any degradation of service quality or network reliability when customers switch carriers;

(7) not result in a carrier having a proprietary interest;

(8) be able to accommodate location and service portability in the future; and

(9) have no significant adverse impact outside the areas where number portability is deployed.

We discuss each of these performance criteria in turn below.

49. First, we require that any long-term method support existing network services, features, or capabilities, such as emergency services, CLASS features, operator and directory assistance services, and intercept capabilities. The 1996 Act requires that consumers be able to retain their numbers "without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another."[145] Moreover, customers are not likely to switch carriers and retain their telephone numbers if they are required to forego services and features to which they have become accustomed. Thus, any long-term method that precludes the provision of existing

[145] See 47 U.S.C. § 153(30).

services and features would place competing service providers at a competitive disadvantage.[146]

50. The public interest also requires that service provider portability not impair the provision of network capabilities that are important to public safety, such as emergency services and intercept capabilities. In our proposal to ensure that PBXs and CMRS providers support enhanced 911 services, we reaffirmed that 911 services enable telephone users to receive fast response to emergency situations, and that broad availability of 911 and E911 services best promotes "safety of life and property through the use of wire and radio communication."[147] In addition, the Communications Assistance for Law Enforcement Act requires telecommunications carriers generally to provide capabilities that enable secure, reliable, and non-intrusive law enforcement interception of call setup information and call content so that law enforcement agencies can intercept and monitor calls when necessary.[148]

51. Second, we require that any long-term method efficiently use numbering resources. Telephone numbers are the means by which commercial and residential consumers gain access to, and reap the benefits of, the public switched telephone network.[149] In recent years, the explosive growth of wireless services has caused an equally dramatic increase in the consumption of telephone numbers.[150] Indeed, in January

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[146] Moreover, we have found that the provision of some services, such as caller ID and emergency services, is in the public interest. For example, our rules require passage of calling party information because national availability of caller ID enables a multitude of services, efficiency gains, and additional choices for consumers. See Rules and Policies Regarding Calling Number Identification Service - Caller ID, Report and Order and Further Notice of Proposed Rulemaking, 9 FCC Rcd 1764, 1765-66 (1994), aff'd, Public Util. Comm'n of California v. FCC, 75 F.3d 1350 (9th Cir. 1996).

[147] Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Notice of Proposed Rulemaking, 9 FCC Rcd 6170, 6171-72 (1994) (quoting 47 U.S.C. § 151).

[148] Communications Assistance for Law Enforcement Act (CALEA), Pub. L. No. 103-414, 108 Stat. 4279 (1994), 47 U.S.C. §§ 1001 et seq. Under CALEA, the term "telecommunications carrier" means a person or entity that is engaged in the transmission or switching of wire or electronic communications as a common carrier. The term includes commercial mobile service providers, as well as providers of wire or electronic communication switching or transmission service if the Commission finds that such service substantially replaces local telephone exchange service. The requirements of CALEA do not extend to information service providers or any class or category of telecommunications carriers that the Commission exempts by rule. 47 U.S.C. § 1001(8).

[149] Numbering Plan Order, 11 FCC Rcd at 2591.

[150] Two out of three new telephone numbers go to wireless subscribers. See CTIA Ex Parte Letter at 1, from Robert F. Roche, to Mindy Littell, FCC, CC Docket No. 95-116, filed June 3, 1996 (CTIA June 3, 1996 Ex Parte Letter). The total number of cellular subscribers more than doubled between 1993 and 1995. In December 1993, there were 16,009,461 cellular subscribers, and, in December 1995, cellular subscribers totalled 33,785,661. Trends in Telephone Service, Industry Analysis Division, Common Carrier Bureau,

1995, carriers began to deploy interchangeable NPA (INPA) codes because all NPA codes had been exhausted.[151] The anticipated shortage of numbers has prompted several BOCs to propose the use of area code overlays.[152] The increased use of overlays and area code splits has resulted in both industry and consumer inconvenience and confusion. The consumption rate of NANP resources is likely to accelerate with the entry of new wireline and wireless carriers.[153] Thus, we conclude that deploying a long-term number portability method that rapidly depletes numbering resources would undermine the efforts of the industry, the states, and the Commission to ensure sufficient numbering resources.

52. Third, deployment of a long-term method should not require customers to make any telecommunications number change. The 1996 Act mandates that end users be able "to retain . . . existing telecommunications numbers . . . when switching from one telecommunications carrier to another."[154] Requiring any number change would contravene this basic requirement. Congress noted that the ability to switch service providers is only meaningful if customers can retain their telephone numbers.[155]

53. Fourth, we require that any long-term method ensure that carriers have the ability to route telephone calls and provide services to their customers independently from the networks of other carriers. Requiring carriers to rely on the networks of their competitors in order to route calls can have several undesirable effects. For example, dependence on the original service provider's network to provide services to a customer that has switched carriers contravenes the choice made by that customer to change service providers. In addition, such dependence creates the potential for call blocking by the original service provider and may make available to the original service provider proprietary customer information. Moreover, methods which first route the call through the original service provider's network in order to determine whether the call is to a ported number, and then perform a query only if the call is to be ported, would treat ported numbers differently than non-ported numbers, resulting in ported calls taking longer to complete than unported calls. This differential in efficiency would disadvantage the carrier to whom the call was ported and impair that carrier's ability to compete

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Federal Communications Commission, at 63 (May 1996).

[151] Numbering Plan Order, 11 FCC Rcd at 2593. NPA codes, commonly known as area codes, have historically been of the format N 0/1 X, where N may be any number from 2 to 9, 0/1 is either 0 or 1, and X may be any number from 0 to 9. INPAs have the format NXX. Id.

[152] See, e.g., Proposed 708 Relief Plan and 630 Numbering Plan Area Code by Ameritech - Illinois, Declaratory Ruling and Order, 10 FCC Rcd 4596, 4598 (1995).

[153] See Numbering Plan Order, 11 FCC Rcd at 2595, 2617, 2629.

[154] 47 U.S.C. § 153(30).

[155] H.R. Rep. No. 204, 104th Cong., 1st Sess., pt. 1, at 72 (1995).

effectively against the original service provider.[156] Finally, dependence on another carrier's network also reduces the new service provider's ability to control the routing of telephone calls to its customers, thus inhibiting its ability to control the costs of such routing. For these reasons, a long-term number portability method should not require dependency on another carrier's network. We note that this criterion does not prevent individual carriers from determining among themselves how to process calls, including a method by which a carrier voluntarily agrees to use the original service provider's network.[157]

54. We recognize that this criterion will effectively preclude carriers from implementing QOR. Those carriers that oppose QOR argue that it would treat ported and non-ported numbers differently, force reliance on the incumbent LEC's network, increase post-dial delay and the potential for call blocking, result in inefficient routing, create significant network interoperability issues, and delay deployment of a long-term number portability method.[158] There is little evidence in the record to support the claim that allowing carriers to implement QOR would result in significant cost savings. Pacific Bell submitted summary figures indicating that it would save approximately $14.2 million per year assuming that 20 percent of subscribers port their numbers if it implemented QOR.[159] These savings, which represent less than 0.2 percent of Pacific Bell's total annual operating revenues, appear insignificant in relation to the potential economic and non-economic costs to competitors if QOR is used. According to AT&T, using QOR on Lucent switches is more cost effective only if less than 12 percent of subscribers have ported their numbers. Similarly, AT&T asserts that using QOR on Siemens switches is more cost effective only if less than 23 percent of subscribers have ported their numbers.[160] In addition, because carriers using QOR may be required to send a QOR message to another carrier's switch to determine if a customer has transferred the number, the second carrier must have the ability to recognize and respond to the QOR

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[156] AT&T April 24, 1996 Ex Parte Letter at 7-8 (increased call completion time on calls to alternative carriers' networks will likely be incorrectly perceived as reflecting an inferior quality of service, and incumbent carriers may seek to exploit call completion differentials); MCI April 23, 1996 Ex Parte Letter at 1-4 (in interexchange market, competitors can and will use "imperceptible" differences in post dial delay to their marketing advantage).

[157] See infra ¶ 62.

[158] See, e.g., AT&T April 24, 1996 Ex Parte Letter at 3-5; MCI April 23, 1996 Ex Parte Letter at 2-4; AT&T May 22, 1996 Ex Parte Filing; AT&T Further Reply Comments at 6; MCI Further Reply Comments at 3-5.

[159] Pacific Bell Ex Parte Letter at 7, from Alan F. Ciamporcero, to William Caton, FCC, CC Docket No. 95-116, filed June 6, 1996 (Pacific Bell June 6, 1996 Ex Parte Letter). According to the estimates submitted by Pacific Bell, higher levels of penetration would result in lower levels of cost savings.

[160] AT&T Ex Parte Presentation at 4, CC Docket No. 95-116, filed May 30, 1996 (AT&T May 30, 1996 Ex Parte Filing).

message, which also may increase its costs.[161] Based on the record before us, we conclude that the competitive benefits of ensuring that calls are not routed through the original carrier's network outweigh any cost savings that QOR may bring in the immediate future.

55. Fifth, as a general matter, we require that the implementation of any long-term method not unreasonably degrade existing service quality or network reliability. Consumers, both business and residential, rely on the public switched telephone network for their livelihood, health and safety. Jeopardizing the reliability of the network would stifle business growth and economic development, and endanger individuals' personal safety and convenience. Consumers, both business and residential, have also come to expect a certain level of quality and convenience in using basic telecommunications services. We note that this Commission has repeatedly affirmed its commitment to maintaining service quality and network reliability.[162] We, therefore, require that any long-term method of providing number portability not cause any unreasonable degradation to the network or the quality of existing services. This requirement extends to degradation that affects carriers operating, and end users obtaining services, outside as well as within the area of portability.

56. Sixth, once long-term number portability is implemented, we require that customers not experience any degradation of service quality or network reliability when they port their numbers to other carriers. We reiterate that the 1996 Act requires that consumers be able to retain their numbers "without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another."[163] We interpret this mandate to mean, at a minimum, that when a customer switches carriers, that customer must not experience a greater dialing delay or call set up time, poorer transmission quality, or a loss of services (such as CLASS features) due to number portability compared to when the customer was with the original carrier.[164]

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[161] AT&T May 22, 1996 Ex Parte Filing at 10.

[162] See Expanded Interconnection with Local Telephone Company Facilities, Report and Order and Notice of Proposed Rulemaking, 7 FCC Rcd 7369, 7380 & n.38 (1992); Intelligent Networks, Notice of Proposed Rulemaking, 8 FCC Rcd 6813, 6814 (1993); Network Reliability: A Report to the Nation, Compendium of Technical Papers, presented by the Federal Communications Commission's Network Reliability Council (June 1993) (NRC Report); Policy and Rules Concerning Rates for Dominant Carriers, Second Report and Order, 5 FCC Rcd 6786, 6829-32 (1990); Reform for Local Exchange Carriers Subject to Rate of Return Regulation, 58 Fed. Reg. 36,145 (1993) (to be codified at 47 C.F.R. pts. 61, 65, 69); Provision of Access for 800 Service, Memorandum Opinion and Order on Reconsideration and Second Supplemental Notice of Proposed Rulemaking, 6 FCC Rcd 5421, 5425-26 (1991).

[163] 47 U.S.C. § 153(30).

[164] See AT&T April 24, 1996 Ex Parte Letter at 7 (arguing that method that imposes incremental post-dial delay on calls to ported numbers and not on calls to non-ported numbers violates 47 U.S.C. § 153(30)); MCI April 23, 1996 Ex Parte Letter at 3 (same).

57. Seventh, we require that no carrier have a proprietary interest in any long term method. A telecommunications carrier may not own rights to, or have a proprietary interest in, number portability technology. We believe that the requirement in the 1996 Act that the costs of number portability be borne on a competitively neutral basis precludes carrier ownership of the long-term method, and their collection of licensing or other fees for use of the method.[165] In addition, it would be competitively unfair if a LEC providing portability were to benefit directly, through licensing fees or a proprietary interest, from its competitors' use of portability. We note that one of the first criteria required by the Illinois task force in selecting a number portability method was that it be non-proprietary.[166]

58. Eighth, we require that any long-term method be able to accommodate service and location portability in the future. Although we do not at this time mandate provision of service or location portability, we recognize that service and location portability have certain benefits, and we may take steps to implement them in the future if demand for these services develops.[167] As our society becomes increasingly mobile, the importance that consumers attribute to the geographic identity of their telephone numbers may change.[168] It is, therefore, in the public interest to take steps now to ensure that we do not foreclose realization of future economies of scope.

59. Finally, we require that any long-term method not have a significant adverse impact on carriers operating, and end users obtaining services, outside the area of number portability. We believe it is fundamentally unfair to impose any new or different obligations on carriers and customers that do not benefit from service provider portability. Indeed, we are adopting a phased approach to implementation so that number portability is available only in the most populous local markets where competition already has begun to develop or is likely to develop in the near term.[169]

60. We do not believe it is necessary to require that a long-term method utilize existing network infrastructure and functionalities to the extent possible, as some

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[165] We note that AT&T and its former technology division, Lucent Technologies, have forsworn any proprietary interest in LRN. See AT&T Ex Parte Letter at 2, from Gerard Salemme, to Regina Keeney, FCC, CC Docket No. 95-116, filed March 12, 1996 (AT&T March 12, 1996 Ex Parte Letter).

[166] Illinois Commerce Commission Ex Parte Presentation at 11, CC Docket No. 95-116, filed June 19, 1996 (ICC June 19, 1996 Ex Parte Filing).

[167] See infra ¶¶ 182-183, 187.

[168] See infra ¶ 187.

[169] See infra ¶ 82.

commenting parties have suggested.[170] Minimizing the costs of implementing a long-term method should be in the best interests of all the parties involved in such implementation. This conclusion is also consistent with our tentative conclusion that the carrier-specific costs that are not directly related to number portability must be borne by the individual carriers.[171] Thus, existing local service providers have an incentive to minimize the extent of the necessary modifications and upgrades, as well as the costs of implementing number portability-specific software. Moreover, while new entrants may not need to modify existing networks, they must deploy and build networks with at least the same capabilities as those of the incumbents if they are to provide number portability.

61. We also decline to require carriers that receive ported numbers also to provide portability because we believe the 1996 Act renders such a requirement unnecessary. Specifically, section 251(b)(2) imposes a duty to provide number portability on all LECs -- incumbents as well as new entrants.[172] In light of the fact that the 1996 Act applies this duty across all LECs, establishing a reciprocity performance criterion would be needlessly redundant.

62. Call processing scenarios. We decline to specify the carrier that must perform the database query in a database method, because we recognize that individual carriers may wish to determine among themselves how to process calls under alternative scenarios.[173] We therefore leave to local exchange carriers the flexibility to choose and negotiate the scenario that best suits their networks and business plans, as long as they act consistently with the requirements established by this Order. While our criterion requiring carriers to be able to route calls and provide service independently from other carriers' networks may preclude unilateral use of the TAP scenario by a particular carrier, there may be instances where carriers agree to use the TAP scenario, or where the terminating provider is the only carrier capable of performing the database query. In those instances, our performance criterion would not preclude use of the TAP scenario.

63. Rating and billing. Finally, we decline to regulate the rating and billing of local wireline calls to end users in connection with a long-term number portability method. Traditionally, the billing and rating of local wireline calls -- including the establishment of mileage standards, procedures for calling cards, and billing format -- have been left to the purview of the states and the carriers themselves. While several

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[170] See supra note 122.

[171] See infra ¶ 226.

[172] 47 U.S.C. § 251(b)(2).

[173] For explanations of the call processing scenarios, see supra ¶ 42.

parties have raised rating and billing questions with regard to number portability, we believe that such issues are more properly addressed by the states.[174]

D. Mandate of Number Portability

1. Background

64. In the Notice, we sought comment on the estimated time to design, build, and deploy a long-term service provider number portability system.[175] We also requested that parties address what network and other modifications would be necessary to effect the transition to portability.[176] The 1996 Act mandates that all LECs "provide, to the extent technically feasible, number portability in accordance with requirements prescribed by the Commission."[177]

2. Position of the Parties

65. Mandate Implementation By A Date Certain. The competitive local exchange providers generally contend that the Commission should mandate the availability of number portability by a date certain.[178] The incumbent LECs, however, caution the Commission not to act with undue haste by mandating the implementation of number portability by a date certain.[179] Indeed, BellSouth claims that the 1996 Act's omission of a deadline for implementation indicates Congress's intent not to require a date certain at this time.[180] It adds that the industry must first give careful attention to developing an implementation checklist that will ensure that the necessary tasks for the

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[174] This does not limit the Commission's ability to take action with regard to rate centers, however, as rate center issues may affect the efficient administration of numbering resources. Rate centers are defined by the local exchange carrier and approved by the state utility commission. Billing between rate centers is calculated based on the distance between the center points in the rate centers. Because each carrier must have a unique NXX in each rate center in a calling area, a carrier's ability to establish rate centers potentially could contribute to number exhaust.

[175] Notice, 10 FCC Rcd at 12371.

[176] Id.

[177] 47 U.S.C. § 251(b)(2).

[178] See, e.g., CompTel Comments at 8-9; Jones Intercable Reply Comments at 5, 7; Teleport Comments at 12.

[179] See, e.g., BellSouth Reply Comments at 5; NYNEX Comments at 10; SBC Communications Comments at 10; GTE Further Comments at 2, 7-10. See also Cincinnati Bell Comments at 6.

[180] BellSouth Further Reply Comments at 4-5.

implementation are properly identified and performed.[181] Instead of establishing a mandatory implementation date, some LECs contend that the Commission should direct an industry body, such as the INC, to determine the most appropriate schedule for deployment of a long-term solution.[182] Other commenters argue that the implementation schedule should be determined by state regulatory bodies.[183] Pacific Bell warns that a Commission-mandated solution at this time would be premature and cites a late proposal introduced by ITN as an illustration that the optimal solution may not yet have been introduced.[184]

66. The wireless industry offers various implementation plans. For instance, PageNet urges the Commission to establish federal guidelines for number portability, and at a specified time in the future, to evaluate the industry's standards using the guidelines through a notice and comment proceeding.[185] However, Omnipoint believes the Commission should act more aggressively in mandating service provider portability by a date certain.[186]

67. Time Estimates for Deployment. Parties differ on their estimates for deployment. AT&T asserts that virtually all of the equipment vendors participating in the Illinois number portability task force indicate that they can provide most upgrades necessary to implement LRN by the second quarter of 1997.[187] As noted above, Illinois, Georgia, and Colorado plan to deploy LRN in mid-1997.[188] New York also expects to deploy LRN in mid-1997, though deployment in certain AT&T switches is expected to

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[181] BellSouth Comments at 54-55.

[182] See, e.g., id. at 47; NYNEX Comments at 10-11.

[183] See e.g., Ameritech Reply Comments at 8; USTA Comments at 6.

[184] Pacific Bell Reply Comments at 8. In its comments, ITN proposed a three-stage number portability method which utilizes AIN triggering to query one or more databases which contain customer "profile" information, such as Preferred IXC Carrier identification codes and customer network addresses. ITN Comments at 4-14. ITN's method was proposed for the first time in mid-1995 after a number of other methods had been proposed, and has garnered little industry support, according to the record.

[185] PageNet Comments at 5-7.

[186] Omnipoint Reply Comments at 9-10.

[187] See, e.g., AT&T Reply Comments at 24; AT&T Further Comments at 6; Sprint Further Comments at 2.

[188] CO PUC LNP Order at 2; Ameritech February 21, 1996 Ex Parte Filing at 12, 54; GA PSC Portability Order at 5-7; AT&T Further Comments at 4 n.5, 7; GA PSC Portability Order at 5-7; NARUC April 17, 1996 Ex Parte Filing at 32; Time Warner Holdings February 12, 1996 Ex Parte Filing at 5.

begin earlier.[189] Michigan has ordered that implementation of long-term number portability in Michigan start at the same time that implementation begins in Illinois.[190] BellSouth, however, estimates that three to five years are required to deploy a number portability system that addresses all the necessary issues.[191]

68. Parties also differ on the interpretation of "technically feasible" as that term is used in section 251(b)(2) of the 1996 Act. GTE argues that the term should not be equated with "technically possible" because cost and timing considerations cannot be separated from the concept of technical feasibility.[192] GTE also maintains that no long-term solution proposed is currently technically feasible, since they all require further information on costs, operation, and reliability.[193] Bell Atlantic contends that deploying a system that is technically feasible, but inefficient, may not be consistent with Congress's goal of a "rapid, efficient" telecommunications system.[194] Bell Atlantic and BellSouth also claim that LRN is merely a call handling protocol, as opposed to a technical solution for number portability.[195]

69. In contrast, Time Warner Holdings and Cox argue that "feasible" must be given common dictionary meaning -- "capable of being done, executed or effected" -- and does not mean "commercially available."[196] Time Warner Holdings points out that equal access and 800 number portability proved to be technically feasible even when they were not commercially available.[197] Time Warner Holdings claims, moreover, that LECs control commercial availability because vendors will not develop and manufacture

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[189] NY DPS Portability Trial Report at 4, 6, 7, Attachment at 2.

[190] MI PSC Interconnection Order at 43.

[191] BellSouth Comments at 54.

[192] GTE Further Comments at 4-5; see also Cincinnati Bell Further Reply Comments at 4.

[193] GTE Further Reply Comments at 1-5. See also Pacific Bell Further Reply Comments at 2-4; SBC Communications Further Reply Comments at 4.

[194] Bell Atlantic Further Reply Comments at 4 (quoting 47 U.S.C. § 151).

[195] Id. at 3; BellSouth Further Reply Comments at 3-6. But see ALTS Further Reply Comments at 7-8 (criticizing characterization of LRN as mere addressing scheme or separation of number portability into triggering and routing functions as attempts to increase unnecessarily involvement of incumbent LECs' networks in LRN implementation).

[196] Time Warner Holdings Further Comments at 4-5 (quoting American Textile Manufacturers Institute v. Donovan, 452 U.S. 490, 509 (1981)); Cox Further Reply Comments at 2 (same).

[197] Time Warner Holdings Further Comments at 5. But see Bell Atlantic Further Reply Comments at 2 & n.4 (asserting that (1) AT&T agreed to make equal access available as part of its consent decree arrangement and (2) 800 number portability was commercially in use before the Commission ordered its deployment).

portability methods until LECs demand them.[198] Similarly, Sprint argues that technically feasible does not mean that every operational and regulatory issue must be resolved before any decision on national number portability can be made.[199] Sprint further claims that Congress's use of the phrase "technically feasible" precludes any consideration of economic feasibility.[200] AT&T and MCI argue that LRN is technically feasible, although they do not explicitly address the precise meaning of the statutory language.[201]

70. Phased Implementation. Most parties addressing the implementation of number portability caution against a flash-cut approach (i.e., deployment nationwide simultaneously).[202] USTA argues that because section 251(b)(2) only requires provision of number portability, not deployment of the necessary software and network upgrades, LECs need only deploy portability upon a bona fide request.[203] Most parties, however, recommend that service provider portability be deployed on a per-market basis within a period of time specified by the Commission.[204] For example, Competitive Carriers proposes that service provider portability be implemented in the 100 largest MSAs within 24 months of this Order.[205] Similarly, Sprint proposes that the Commission adopt a phased approach requiring local service providers to deploy a long-term solution upon receipt of a bona fide request from a certified carrier: (1) in the top 100 MSAs by the end of fourth quarter 1997; (2) in the next 135 MSAs, within 3-4 years after this Order is issued; and (3) within any remaining areas, beginning in the fifth year after this Order is issued.[206] Omnipoint maintains that service provider portability should be made available in the top 100 MSAs between October of 1997 and October of 1998,[207] while GO Communications proposes implementation of service provider portability in the major

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[198] Time Warner Holdings Further Comments at 5.

[199] Sprint Further Reply Comments at 3-4.

[200] Id. at 5-6; see also ALTS Further Reply Comments at 2-3.

[201] AT&T Further Reply Comments at 3; MCI Further Reply Comments at 2-3.

[202] See, e.g., US West Comments at 22; Illinois Commerce Commission Comments at 9; GTE Further Comments at 8.

[203] USTA Further Reply Comments at 7 & n.4.

[204] See, e.g., Citizens Utilities Comments at 8, 17; Nextel Comments at 5.

[205] Competitive Carriers Comments at 15. See also Jones Intercable Reply Comments at 7-8.

[206] Sprint Comments at 11-12; Sprint Reply Comments at 5; Sprint Further Comments at 5, 6. See also Teleport Comments at 12.

[207] Omnipoint Reply Comments at 9.

metropolitan areas by early 1997.[208] MFS supports a final cut-over in the 100 largest MSAs by October 1997, with an initial cut-over in the top 35 MSAs on March 31, 1997.[209] It adds that, in order to deploy this capability as competition develops in specific markets, number portability should be implemented by LECs within 18 months of activation of an NXX code in the Local Exchange Routing Guide (LERG) and assignment to a competitor.[210] AT&T has indicated that LRN deployment could begin in the third quarter of 1997 in one MSA in each of the seven BOC regions, followed by deployment in at least three additional MSAs per region during both fourth quarter 1997 and first quarter 1998.[211] Once this initial phase is completed, AT&T suggests that the Commission could require LRN to be deployed in at least four additional MSAs during both second and third quarters 1998, or 105 MSAs total.[212] AT&T's proposed plan would result in deployment of LRN software in a total of 7 MSAs in third quarter 1997, 21 additional MSAs in fourth quarter 1997, 21 additional MSAs in first quarter 1998, 28 additional MSAs in second quarter 1998, and 28 additional MSAs in third quarter 1998.[213] AT&T further asserts that its proposed schedule would require major switch manufacturers to update switch software at a rate of 53 switches per week, and that one major switch manufacturer has claimed that it alone can update 50 switches per week.[214] MCI urges that number portability be deployed in the top 100 MSAs, by population, over a 10 month period beginning no later than June 30, 1997.[215] After implementation is complete in the initial 100 MSAs, MCI recommends that the remaining MSAs be converted based on written requests from carriers filed with the Commission, which may order implementation in a particular MSA to be completed within six months of the request.[216] MCI and Time Warner Holdings also support the notion of requiring number

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[208] GO Communications Reply Comments at 6-7.

[209] MFS Comments at 8-9.

[210] MFS Further Reply Comments at 4.

[211] AT&T April 24, 1996 Ex Parte Letter at 2.

[212] Id.

[213] Id.

[214] AT&T May 30, 1996 Ex Parte Filing at 3.

[215] MCI June 19, 1996 Ex Parte Letter at 1. MCI recommends a schedule requiring implementation in particular MSAs each month. See id. at 1.

[216] Id. at 1.

portability implementation within six months of a request of a telecommunications carrier.[217] Finally, Ameritech argues it is premature to set a deployment schedule for LRN because there are several operational issues yet to be resolved.[218] It further argues that schedules proposed by various carriers are too aggressive and exceed the resources of the industry.[219]

71. Switch vendors assert that LRN software will be generally available for service providers to deploy in 1997. Lucent Technologies plans general availability of LRN software for March 21, 1997, for its 1A ESS switch; March 31, 1997, for its 5ESS-2000 switch; and May 1, 1997, for its 4ESS switch.[220] Lucent asserts that, after the new software becomes generally available, it will be able to support up to 50 software release updates per week for the 5ESS and 1A ESS switches for North America (each release update upgrades the software for one switch).[221] Nortel states that its LRN software will be available in the second quarter of 1997 for its DMS-100, DMS-200, and DMS-500 switches, and will be available in the third quarter of 1997 for its DMS-10 and TOPS switches.[222] Siemens Stromberg-Carlson asserts that its LRN software will be available for testing on its EWSD switch in its Release 14.E generic in October 1996, and will be generally available in the first quarter of 1997.[223] Siemens further claims that upgrades to EWSD switches deployed within the top 100 MSAs can be completed within five months of the date of general availability.[224] Ericsson asserts that its LRN software for Ericsson SCPs[225] will be generally available in the second quarter of 1997, and that its LRN software for Ericsson SSPs[226] will be generally available in the third quarter of 1997.[227]

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[217] See id. (arguing for requiring provision of number portability in areas outside of 100 largest MSAs within six months of a request); Time Warner Holdings Comments at 14-16 (arguing for requirement that number portability be provided within six months after request of another telecommunications carrier); Time Warner Holdings Ex Parte Presentation at 3, CC Docket No. 95-116, filed February 26, 1996 (Time Warner Holdings Feb. 26, 1996 Ex Parte Filing).

[218] Ameritech Further Reply Comments at 3-4.

[219] Id. at 4-5.

[220] Lucent May 20, 1996 Ex Parte Letter at 1.

[221] Id. at 2.

[222] Nortel May 29, 1996 Ex Parte Letter at 1-2.

[223] Siemens May 20, 1996 Ex Parte Letter at 1.

[224] Id. at 2.

[225] For a definition of SCP, see infra note 288.

[226] A service switching point (SSP) is a stored-program controlled switching system that has the functional capability to differentiate intelligent network calls and interact with SCPs.

Ericsson expects that 6-7 switch upgrades can be accomplished each week, with each upgrade taking 3-4 days.[228]

72. The Illinois Commerce Commission argues that a phased approach -- implementing number portability in those areas where local competition is developing -- may be more cost-effective and more feasible technically than a nationwide uniform deadline.[229] Similarly, US West contends that a nationwide uniform deadline for service provider portability is neither practical nor necessary due to differing levels of competition.[230] Sprint asserts that a phased implementation will accommodate the concerns of the small LECs, arguing that a phased approach best balances the need for rapid deployment with the capital constraints facing individual carriers.[231] Nextel asserts that a phased approach is more efficient because it results in the introduction of number portability where the demand for service provider portability is greatest.[232] Bell Atlantic and US West contend that state agencies should determine when and where service provider portability should be introduced within their respective jurisdictions. Alternatively, US West suggests that the Commission could use the same approach to implementing service provider portability that it adopted in implementing equal access for independent LECs.[233]

73. Rural and Small LEC Exemption. In comments filed prior to passage of the 1996 Act, GVNW, TDS Telecom, NECA, and OPASTCO argue that, if the Commission mandates the implementation of number portability, it should exempt small and rural LECs from such a mandate.[234] GNVW, NECA, and NTCA claim that the demand for service provider portability is significantly less in areas served by rural and

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[227] Ericsson May 21, 1996 Ex Parte Letter at 1.

[228] Id.

[229] Illinois Commerce Commission Comments at 9.

[230] US West Comments at 22-23.

[231] Sprint Comments at 12.

[232] Nextel Comments at 5. See also Pacific Bell Comments at 25.

[233] Bell Atlantic Comments at 11; US West Comments at 23.

[234] See GVNW Comments at 7; OPASTCO Comments at 10; NECA Comments at 2; TDS Telecom Comments at 2-3, 5, 9 (arguing that the Commission must be able to point to nationwide public benefits stemming from number portability before rural, residential, and small business customers are burdened with the costs of portability).

small LECs because local exchange competition is not likely to develop there soon, if at all.[235]

3. Discussion

74. Section 251(b) requires that all local exchange carriers, as defined by section 153(26), "provide, to the extent technically feasible, number portability in accordance with requirements prescribed by the Commission."[236] We believe that requiring implementation of long-term number portability by a date certain is consistent with the 1996 Act's requirement that LECs provide number portability as soon as they can do so and will advance the 1996 Act's goal of encouraging competition in the local exchange market.[237] The record indicates that at least one long-term method will be available for deployment in mid-1997.

75. We decline the suggestion of some parties that we direct an industry body to determine an appropriate implementation plan. The INC has been analyzing the issues surrounding number portability for over two years. Delegating responsibility for number portability implementation to an industry group such as the INC would unnecessarily delay implementation of number portability. Similarly, we reject BellSouth's arguments in favor of delaying implementation for three to five years. We believe such a delay is inconsistent with the 1996 Act's requirement that LECs make number portability available when doing so is technically feasible, as well as with the pro-competitive goals of the 1996 Act, and would not serve the public interest.

76. Carriers filing comments in this proceeding have suggested various deployment schedules, with most suggesting deployment within two years of a Commission order or sooner.[238] According to current schedules in Illinois, Georgia, Colorado, Maryland, and New York, AT&T's LRN method is scheduled for deployment (most likely excluding necessary field testing) beginning in mid-1997.[239] Thus, the record indicates that one method for providing number portability will be available in mid-1997.

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[235] See, e.g., GVNW Comments at 2; NECA Comments at 2; NTCA Comments at 1-2.

[236] 47 U.S.C. §§ 153(26), 251(b)(2).

[237] 47 U.S.C. § 251(b)(2).

[238] See, e.g., AT&T April 24, 1996 Ex Parte Letter at 2; Citizens Utilities Comments at 8, 17; Competitive Carriers Comments at 15; GO Communications Reply Comments at 6-7; Jones Intercable Reply Comments at 7-8; MCI June 19, 1996 Ex Parte Letter; MFS Comments at 8-9; Omnipoint Reply Comments at 9-10; Teleport Comments at 12.

[239] See supra ¶ 22.

77. Pursuant to our statutory authority under the 1996 Act, we require local exchange carriers operating in the 100 largest MSAs to offer long-term service provider portability commencing on October 1, 1997, and concluding by December 31, 1998, according to the deployment schedule set forth in Appendix F.[240] We require deployment in one MSA in each of the seven BOC regions by the end of fourth quarter 1997, 16 additional MSAs by the end of first quarter 1998, 22 additional MSAs by the end of second quarter 1998, 25 additional MSAs by the end of third quarter 1998, and 30 additional MSAs by the end of fourth quarter 1998.[241] As a practical matter, this obligation requires LECs to provide number portability to other telecommunications carriers providing local exchange or exchange access service within the same MSA. This schedule is consistent with switch vendor estimates that software for at least one long-term number portability method will be generally available for deployment by carriers around mid-1997, and with the schedule proposed by AT&T.[242] One major switch manufacturer has claimed that it alone can support the deployment of number portability software in 50 switches per week.[243] We conclude that a schedule consistent with AT&T's proposed schedule, which would require all of the major switch manufacturers collectively to update switch software at a total rate of 53 switches per week, appears workable.

78. We note that, in establishing this schedule, we have relied upon representations of switch vendors concerning the dates by which the necessary switching software will be generally available.[244] As a result, our deployment schedule depends directly upon the accuracy of those estimates and the absence of any significant technical problems in deployment. We delegate authority to the Chief, Common Carrier Bureau, to monitor the progress of local exchange carriers implementing number portability, and to direct such carriers to take any actions necessary to ensure compliance with this deployment schedule. We expect that the industry will work together to resolve any outstanding issues, technical or otherwise, which are involved with providing long-term number portability in accordance with our requirements and deployment schedule. We note that while we prescribe the time constraints within which LECs must implement number portability, we strongly encourage carriers to provide such portability before the Commission-imposed deadlines.

79. In addition, we direct the carriers that are members of the Illinois Local Number Portability Workshop to conduct a field test of LRN or another technically

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[240] See infra app. D for list of 100 largest MSAs.

[241] See infra app. F.

[242] See supra ¶ 71; AT&T April 24, 1996 Ex Parte Letter at 2.

[243] See AT&T May 30, 1996 Ex Parte Letter at 3; Lucent May 20, 1996 Ex Parte Letter at 2.

[244] See supra ¶ 71.

feasible long-term number portability method that comports with our performance criteria concluding no later than August 31, 1997.[245] We select the Chicago area for the field test because the record indicates that the Illinois workshop was responsible for drafting requirements for switching software currently being developed by switch manufacturers. Because of the significant work which has been done on behalf of the Illinois workshop, we believe the Chicago area is the best site within which to conduct a field test. The field test should encompass both network capability and billing and ordering systems, as well as maintenance arrangements. We delegate authority to the Chief, Common Carrier Bureau, to monitor developments during the field test. We further direct that the carriers participating in the test jointly file with the Bureau a report of their findings within 30 days following completion of the test. While we do not routinely order field testing of telecommunications technologies as part of rulemaking proceedings, we have a significant interest in ensuring the integrity of the public switched network as number portability is deployed nationwide. We believe a field test will help to identify technical problems in advance of widespread deployment, thereby safeguarding the network.

80. After December 31, 1998, each LEC must make long-term number portability available in smaller MSAs within six months after a specific request by another telecommunications carrier in the areas in which the requesting carrier is operating or plans to operate. Telecommunications carriers may file requests for number portability beginning January 1, 1999. Such requests should specifically request long-term number portability, identify the discrete geographic area covered by the request, and provide a tentative date six or more months in the future when the carrier expects to need number portability in order to port prospective customers.

81. We believe that this deployment schedule is consistent with the requirements of sections 251(b)(2) and (d), which give the Commission responsibility for establishing regulations regarding the provision of number portability to the extent technically feasible.[246] As the record indicates, long-term number portability requires the use of one or more databases.[247] Such databases have yet to be deployed. As indicated above, the methods for providing long-term number portability that would satisfy our criteria require the development of new switching software that is not currently available, but is under development. The record indicates, however, that at least one method of long-term number portability will be technically feasible by mid-1997. Requiring number

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[245] We note that the following carriers are currently members of the Illinois Local Number Portability Workshop: Ameritech-Illinois, GTE North, GTE South, Central Telephone Company of Illinois, AT&T Communications, MCI Telecommunications, Sprint Communications, MCI Metro Transmission Services, MFS Intelenet of Illinois, Teleport Communications Group, and Southwestern Bell Mobile Systems. See Ameritech et al. May 8, 1996 Joint Ex Parte Letter at 1 n.2. This directive would also apply to any carrier that joins the workshop after release of this Order.

[246] 47 U.S.C. § 251(b)(2), (d).

[247] See infra ¶ 91.